We Claim:-

1. An electrical conductor winding comprising a plurality of laminates of electrical insulation, each laminate of electrical insulation having a first surface and a second surface, the first surface of each laminate of electrical insulation being flat and the second surface of each electrical insulation having a slot, at least one aperture extending through each laminate of electrical insulation from the slot to the first surface, each laminate of electrical insulation having an electrical conductor arranged in the slot, each aperture having an electrical connector to connect the electrical conductor in the slot in one laminate of electrical insulation with the electrical conductor in the slot in an adjacent laminate of electrical insulation, the laminates of electrical insulation being arranged such that the first surface of one laminate of electrical insulation abuts and is bonded to the second surface of an adjacent laminate of electrical insulation and the laminates of electrical insulation comprises a glass-ceramic material, the glass-ceramic material comprises at least one phase whose combined thermal expansion substantially matches the thermal expansion of the electrical conductor.

2. An electrical conductor winding as claimed in claim 1 wherein the at least one phase is selected from the group consisting of cristobalite, lithium zinc silicate, lithium disilicate, lithium metasilicate, enstatite, clinoenstatite and calcium orthosilicate.

3. An electrical conductor winding as claimed in claim 1 wherein the glass-ceramic material comprises silica, lithium oxide, zinc oxide, potassium oxide and phosphorus oxide.

4. An electrical conductor winding as claimed in claim 1, wherein the glass-ceramic material comprises 59.2wt% SiO_2, 9.0wt% LiO_2, 27.1wt% ZnO, 2.0wt% K_2O and 2.7wt% P_2O_5.

5. An electrical conduction winding as claimed in claim 1 wherein the glass material comprises 12 to 14.5wt% Li_2O 2 to 2.6wt% ZnO, 4.7 to 5.7wt% K_2O, 8.2 to 10.2 wt% Al_2O_3, 0.31 to 0.39wt% starch, 0.027 to 0.033wt% CeO_2, 0.018 to 0.022wt% AgCl and the balance SiO_2 plus incidental impurities.

6. An electrical conductor winding as claimed in claim 1 wherein the electrical conductors comprise copper.

7. An electrical conductor winding as claimed in claim 1 wherein the electrical connectors comprise copper.

8. An electrical conductor winding as claimed in claim 1 wherein the electrical connectors are brazed to the electrical conductors.

9. An electrical conductor winding as claimed in claim 1 wherein the electrical connectors are soldered to the electrical conductors by high electrical conductivity solder.

10. An electrical conductor winding as claimed in claim 1 wherein at least one of the electrical conductors is wound into a spiral.

11. An electrical conductor winding as claimed in claim 10 wherein each of the electrical conductors is wound into a spiral.

12. An electrical machine comprising an electrical conductor winding as claimed in claim 1.

13. An electrical machine as claimed in claim 12 wherein the electrical machine comprises an active electromagnetic bearing, an electrical generator or an electrical motor.

14. A method of manufacturing an electrical conductor winding comprising

(a) forming a plurality of laminates of electrical insulation, each laminate of electrical insulation having a first surface and a second surface, the first surface of each laminate of electrical insulation being flat, the second surface of each laminate of electrical insulation having a slot, the laminates of electrical insulation comprises a glass or a glass-ceramic material, the glass-

ceramic material comprises at least one phase whose combined thermal expansion substantially matches the thermal expansion of the electrical conductor,

(b) forming at least one aperture through each laminate of electrical insulation from the slot to the first surface,

(c) placing an electrical conductor in the slot in each laminate of electrical insulation,

(d) placing an electrical connector in the aperture in each laminate of electrical insulation to connect the electrical conductor in the slot in one laminate of electrical insulation with the electrical conductor in the slot in an adjacent laminate of electrical insulation,

(e) stacking the laminates of electrical insulation such that the first surface of one laminate of electrical insulation abuts the second surface of an adjacent laminate of electrical insulation,

(f) heating the stack of laminates of electrical insulation such the first surface of one laminate of electrical insulation bonds to the second surface of an adjacent laminate of electrical insulation.

15. A method as claimed in claim 14 comprising an additional step (g) after or concurrent with step (f) of heating the stack of laminates of electrical insulation to convert the glass to a glass ceramic material.

16. A method as claimed in claim 14 comprising placing a layer of glass powder between the laminates of electrical insulation to bond the laminates of electrical insulation.

17. A method as claimed in claim 14 comprising electroforming the electrical conductors into the slots in the laminates of electrical insulation.

18. A method as claimed in claim 14 wherein the electrical conductors comprise copper.

19. A method as claimed in claim 14 comprising forming the apertures in the laminates of electrical insulation at the

same time as forming the slots in the electrical insulation.

20. A method as claimed in claim 19 comprising forming the apertures through the electrical conductors while the electrical conductor are in the slots.

21. A method as claimed in claim 19 comprising forming the apertures through the electrical conductors while the electrical conductors are placed in the slots.

22. A method as claimed in claim 14 wherein the electrical connectors comprise copper.

23. A method as claimed in claim 14 comprising placing a solder material or braze material between the electrical conductors and the electrical connectors.

24. A method as claimed in claim 14 comprising press forming the laminates of electrical insulation in the glassy state and then turning the laminates of electrical insulation to a glass-ceramic.

25. A method as claimed in claim 14 wherein the at least one phase includes cristobalite, lithium zinc silicate, lithium disilicate, lithium metasilicate, enstatite, clinoenstatite or calcium orthosilicate.

26. A method as claimed in claim 14 wherein the glass-ceramic material comprises silica, lithium oxide, zinc oxide, potassium oxide and phosphorus oxide.

27. A method as claimed in claim 14 wherein the glass-ceramic material comprises 59.2wt% SiO_2, 9.0wt% LiO_2, 27.1wt% ZnO, 2.0wt% K_2O and 2.7wt% P_2O_5.

28. A method as claimed in claim 14 comprising forming the slots in the laminates of electrical insulation by photo-forming a glass material.

29. A method as claimed in claim 28 comprising directing ultra violet light onto predetermined regions of the glass material, heat treating the glass to introduce crystal nucleation and growth in the predetermined regions of the glass material exposed to the ultra violet light, etching the glass material to remove glass material in the

predetermined regions of the glass material to form the slots.

30. A method as claimed in claim 28 wherein the glass material comprises 12 to 14.5wt% Li_2O, 2 to 2.6wt% ZnO, 4.7 to 5.7wt% K_2O, 8.2 to 10.2wt% Al_2O_3, 0.31 to 0.39wt% starch, 0.027 to 0.033wt% CeO_2, 0.018 to 0.022wt% AgCl and the balance SiO_2 plus incidental impurities.